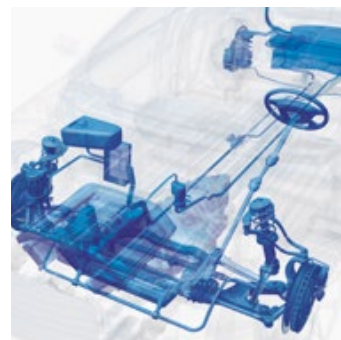


# Automotive Industry

Open Mesh and Depth Media Solutions



**Automotive** | Filtration Solutions

**S E F A R**  
■ ■ ■ ■



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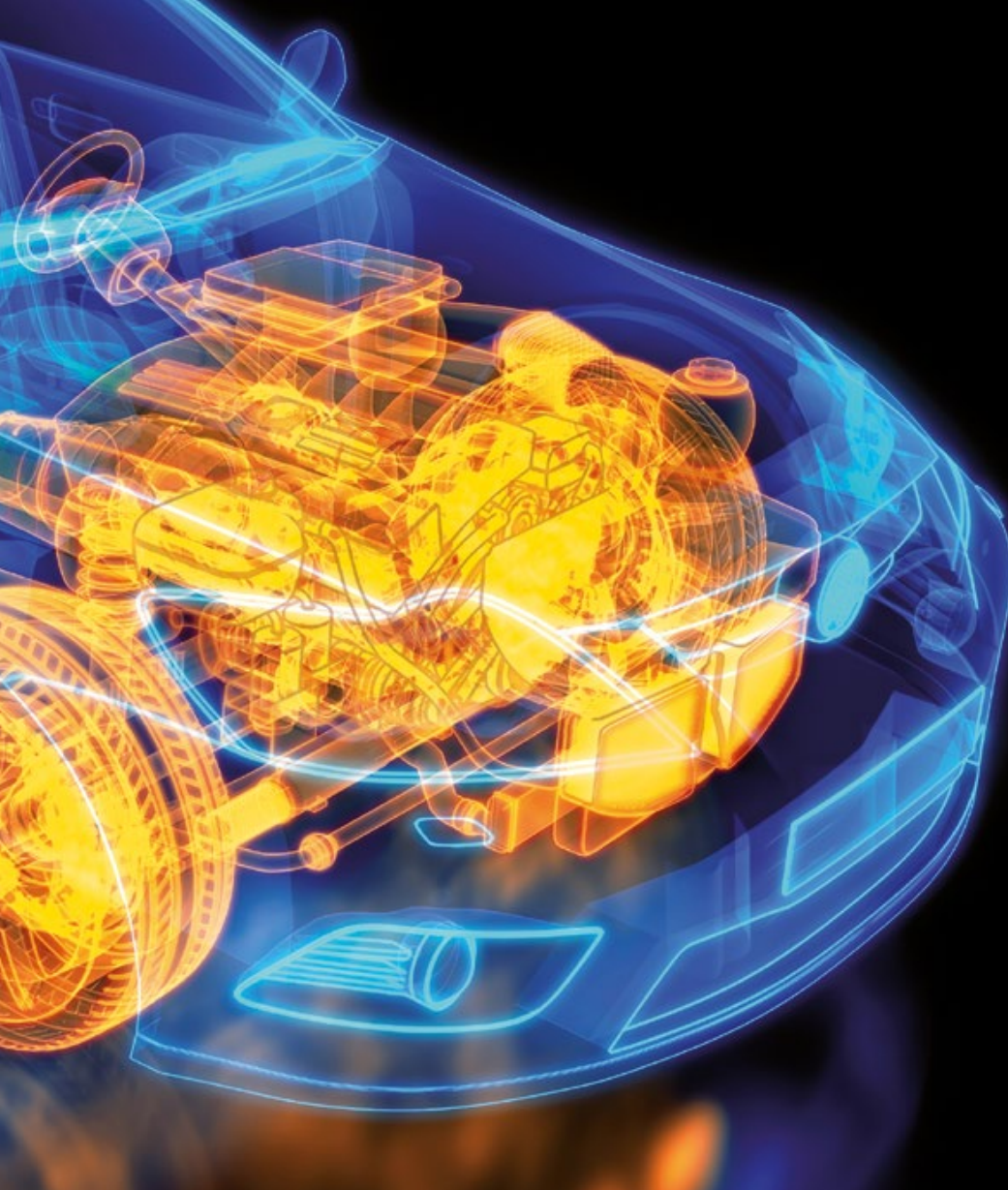
## Sefar Filtration Solutions for the Automotive Industry

Sefar offers more. In today's demanding automotive systems it is critical to have long lasting, innovative filters; Sefar's non-corroding, self cleaning filters ensure excellent filtering efficiency for the desired product lifetime.

In extreme environments, Sefar's line of specialty fabrics are ideal where high temperature, chemical resistance and material fatigue are common.

Sefar's synthetic fabrics exhibit precise mesh openings and strictly controlled fabric properties that guarantee reliable and consistent filter performance.





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## We Focus on your Application

Sefar understands the competitive environment of the automotive industry. Therefore, we offer a wide range of testing and development possibilities to take care of our customers' first to market goals.

### Your development partner

Sefar's filtration solutions provide injection molders and filter element manufacturers significant advantages:

- Certified ISO TS 16949
- Application knowledge to assist customers in finding the right filtration solutions
- In-house industry standard test equipment
- Worldwide fabrication facilities

### Sefar quality control

Fully traceable and strictly controlled ensures lot to lot accuracy:

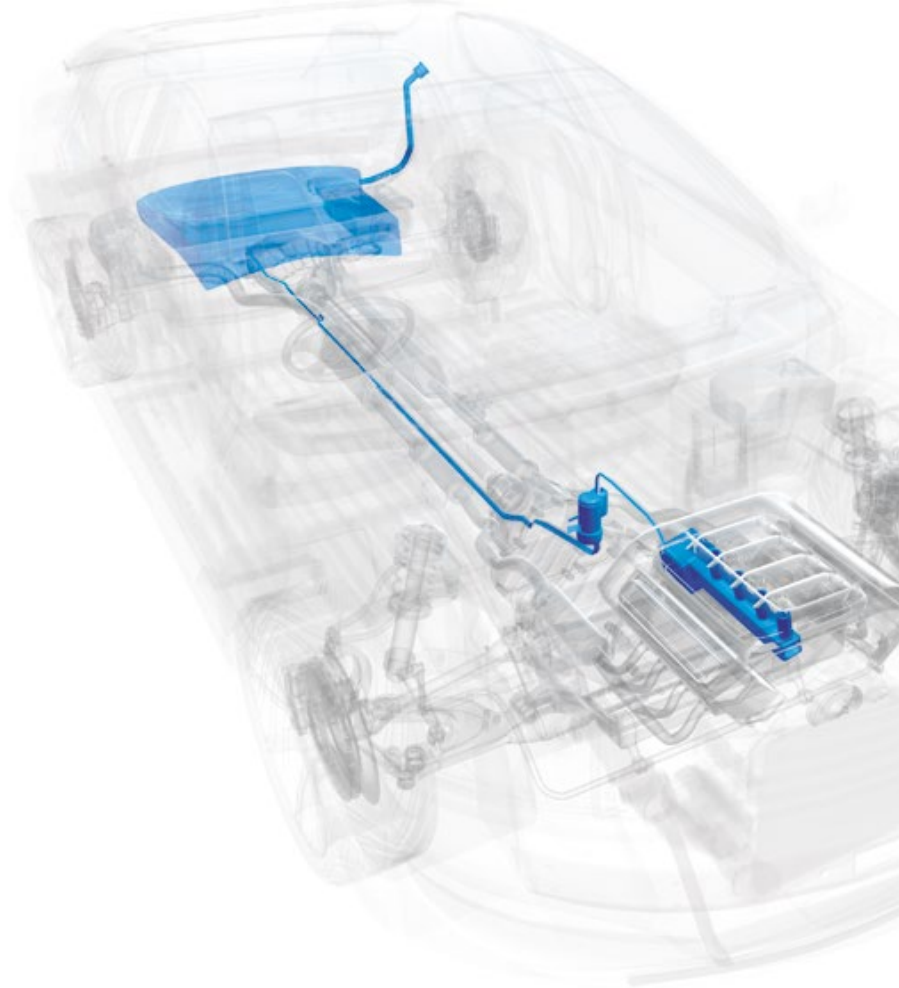
- Sefar quality control is process-oriented throughout the entire manufacturing process
- The product specific characteristics, such as mesh size, mesh count, open area, thickness and air permeability are monitored using modern optical or pressure-sensitive equipment
- Unmatched quality standards give our customers the confidence to specify Sefar fabrics for the most demanding automotive applications

## Open Mesh Solutions **Fuel Injection**

Injection and carburetor fuel filters rely on precise and reliable screening performance down to a few microns. For excellent resistance to fuels and other automotive additives choose SEFAR NITEX® or SEFAR PEEKTEX® fabrics.







Pre-material endless tube



Typical fuel filters



Semi-finished tube cuts

#### We offer

- Monofilament open mesh
- Available in PA 6.6, PET and PEEK
- Different fabrication solutions: tubes, tube cuts, ribbons

#### Main features and benefits

- PEEK fabric has a high chemical resistance against BIO fuels
- High open area
- Low pressure drop due to a high open area
- Smaller filtration areas due to higher throughput
- High temperature resistance

#### Recommended fabrics

**17-22/14**

**17-35/22**

**03-30/18**

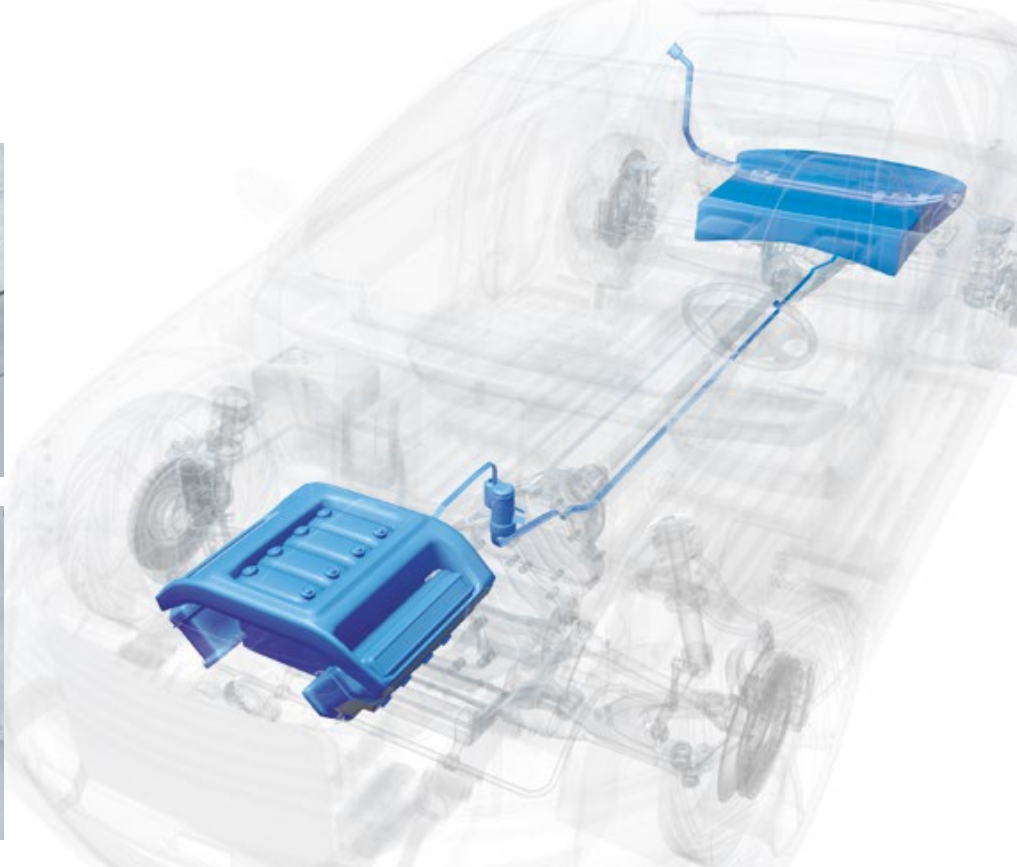
## Depth Media and Open Mesh Solutions

# Fuel Filtration

Today the main filter performance criteria are filter efficiency, capacity and pressure drop. In modern in-tank fuel filters the change from plain reverse Dutch weaves that are based on woven monofilaments, to depth filtration media has dramatically improved filtration performance. SEFAR's ACCUFLOW® depth media solutions provide protection against particle migration, with excellent debris holding capacity and low pressure drops.



Bonded fabrics and depth filter media



Examples of fuel pump filters

#### We offer

- Different polymers
- Surface and/or depth filtration
- Pleated element
- Ultrasonically stamped elements
- Fabrication capabilities solutions

#### Main features and benefits

- High dirt holding capacity reduces filtration area
- Defined particle retention
- Low pressure drop
- Longer lifetime
- Multi-pass and single-pass in-house testing

#### Recommended fabrics

##### Depth media solutions

**06-150-30**

**07-470-30**

**07-575-60**

##### Surface filtration

**03-60/45**

**S-TEX PA 60-80**

**S-TEX PA 80-125**

**S-TEX PA 200-180**

**07-51/33**





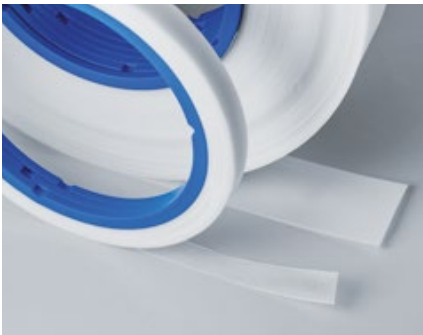
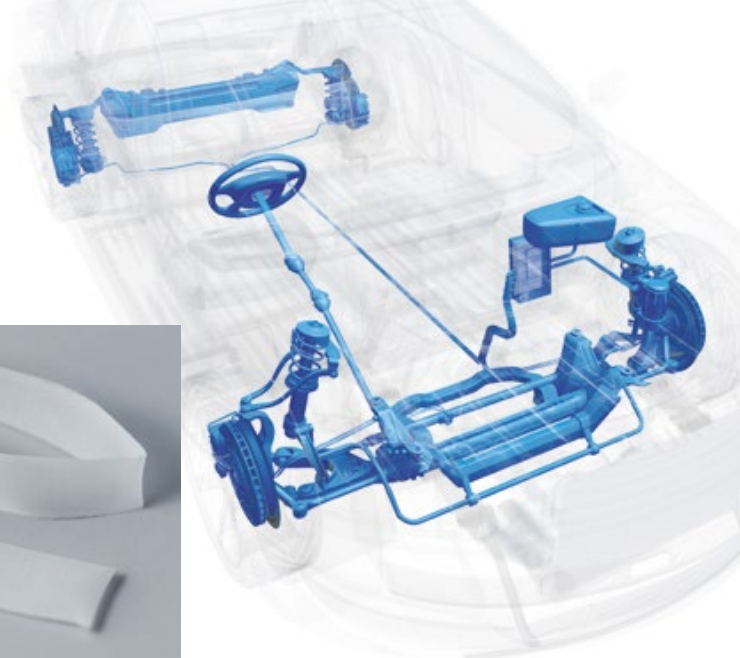
## Open Mesh Solutions **Brake and Steering Systems**

Open mesh filters are ideal for hydraulic braking systems, transmission and steering filters.

Sefar offers excellent thermal stability and precise mesh openings for filtering system critical hydraulic fluids. SEFAR TETEX® MONO or SEFAR PETEX® fabrics are the preferred solutions.



Tubes, heat-slit and ultrasonically welded



Ribbons as roll goods



Injection-molded customer products

#### We offer

- Ultrasonically welded tubes
- Heat-slit tubes
- Ribbons

#### Main features and benefits

- Wide range of monofilament fabrics
- Available in polyester, polyamide and PEEK
- Pore sizes from 40 µm to 200 µm
- Open areas up to 70 %
- Optimal chemical and thermal resistance for long lasting durability
- Low pressure drop resistance for longer durability
- High split resistance

#### Recommended fabrics

<b>PA 03-190/57</b>	
<b>PA 03-48/22</b>	yellow
<b>PA 03-48/36</b>	red/yellow
<b>PA 03-190/57</b>	melamine coated

## Open Mesh and Depth Media Solutions

# Transmission Filter

Sefar supplies highly efficient transmission filters. Our open mesh fabrics combined with a wide range of depth media, provide the ultimate in filtration protection. Suction and pressure filters are manufactured and fabricated to your specifications and are available in a variety of sizes and shapes.

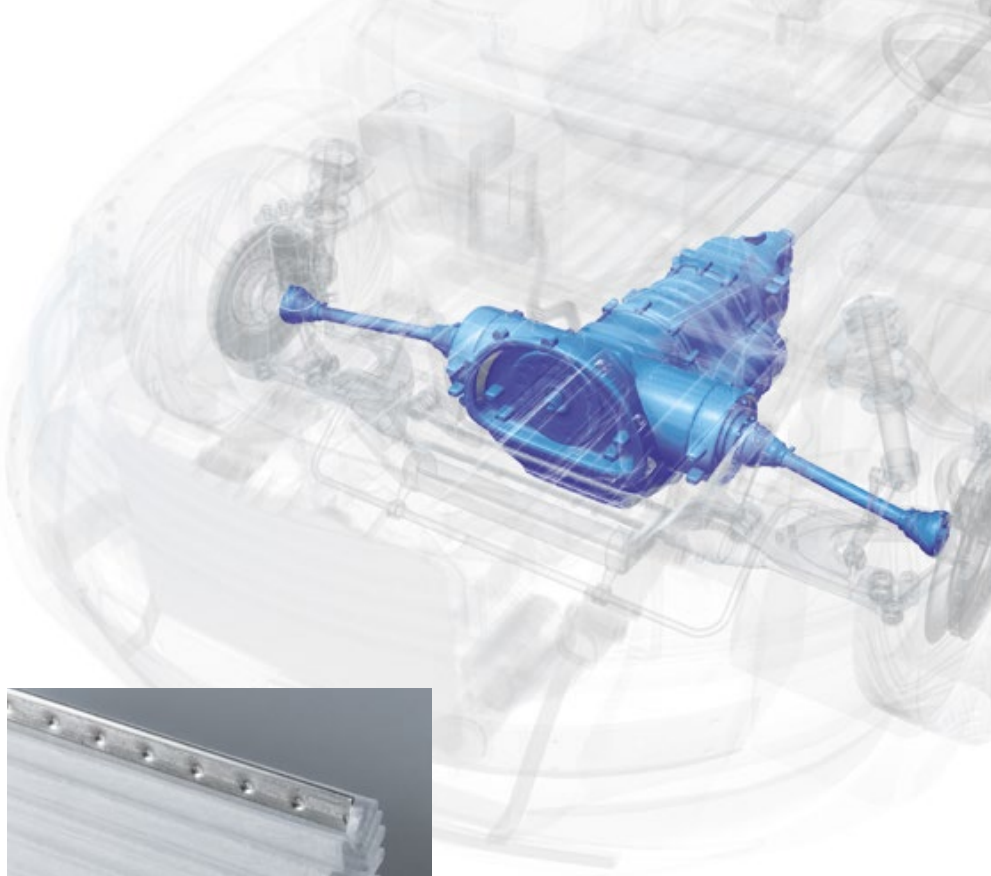




Pleated elements



Pleated endless elements



#### We offer

- Filter solutions for suction and pressure side
- Combination of depth filtration media with surface fabric filter media
- Stamped elements, pleated elements, multilayer constructions

#### Main features and benefits

- High throughput over a wide range of oil viscosities
- Higher efficiency due to a small mesh opening
- Available in a variety of open mesh and depth media combinations

#### Recommended fabrics

**07-40/25**  
**S-TEX PA 250-225**  
**17-115/145**

## Depth Media and Open Mesh Solutions **Exhaust and AdBlue® System**

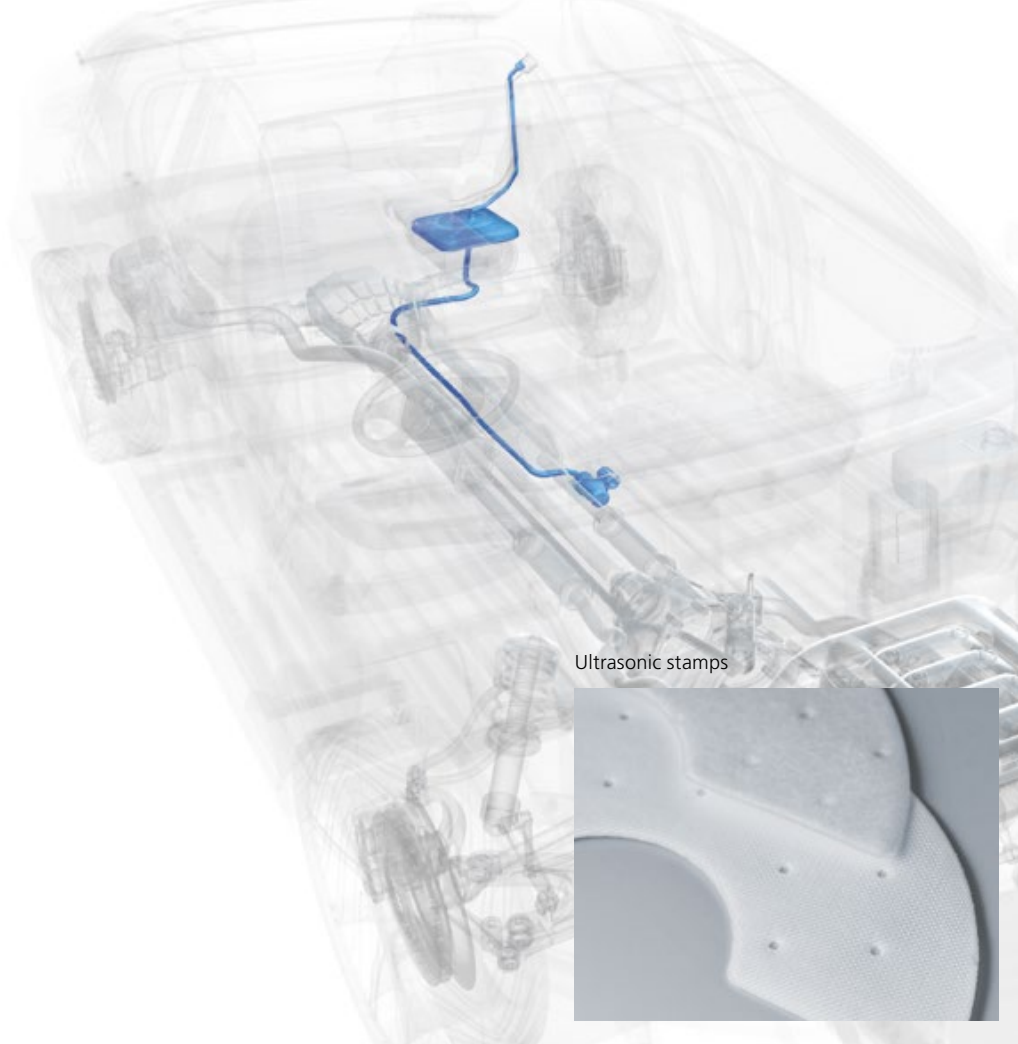
As a response to stricter emission standards to reduce NO<sub>x</sub> emission, automotive manufacturers have decided to use SCR (Selective Catalytic Reduction) technology.

The AdBlue® application involves a system whereby a urea solution is sprayed into the exhaust stream in the catalytic converter.

The nitrogen oxides are converted into nitrogen (N<sub>2</sub>) and water (H<sub>2</sub>O). The Sefar solution is to filter the urea solution using a multilayer media. The filter protects the pump from particles larger than 15 µm.



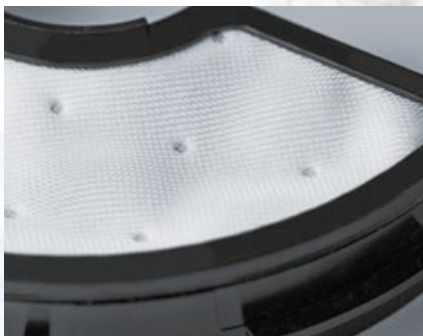




Pre-material roll goods



Ultrasonic stamps



Examples of AdBlue® filters

#### We offer

- Ultrasonically stamped elements
- Pleated elements
- Fabrication capabilities solutions

#### Main features and benefits

- AdBlue® resistant polyamide construction
- Multilayer mesh and non-woven fabric ultrasonically bonded
- Mesh supported filtration media
- Defined efficiency, 95 % at 15 µm particles
- High capacity

#### Recommended fabrics

**03-600-20**

**06-150-30**

## Combination of Open Mesh and Depth Media Solution **Diesel Conditioning Systems**

High-pressure injection systems of modern diesel engines place high demands on fuel purity. Particulate combined with drops of water can harm the components of the injection system. As a result, water must be separated from the fuel. Sefar has developed multi-layer media and specialty coated open mesh filters for diesel fuel systems.





Pre-material roll goods



Examples of customer products

#### We offer

- Sefar monofil open mesh for water separation
- SEFAR® Accuflow depth media for coalescing
- Special hydrophobic treatment
- In-house media testing (According to ISO 16332)

Different fabrication solutions:

- Ultrasonically-slit tubes
- Pleated elements
- Slit ribbons

#### Main features and benefits

- Specialty coated hydrophobic or hydrophilic mesh with high open areas for water separation
- Specific multilayer for coalescing
- In-house test equipment (According to ISO 16332)

#### Recommended fabrics

##### Coalescing

**12-690-75**

##### Water separation

**07-15/9 hydrophobic**

**07-20/22 hydrophobic**

**07-40/40 hydrophobic**

**07-50/37 hydrophobic**



## Test Equipment Laboratory



### Laboratory

To analyze the behavior of our products, Sefar has specially designed equipment that replicates our customer's process.

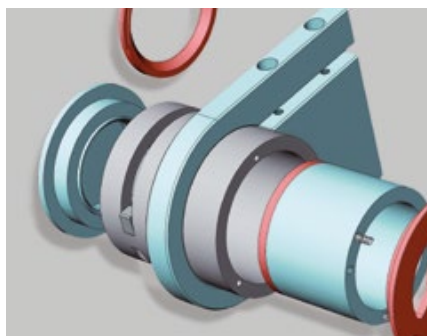
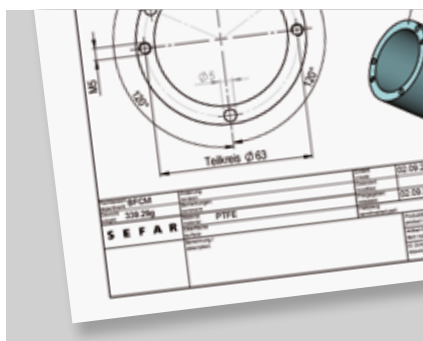


### Multi-Pass test bench

The test bench is designed as a multi pass test stand according to ISO 19438, ISO 16889, ISO 4548-12, SAE J905 and SAE J1985, as a part of the filter manufacturing and quality monitoring center.



## Product Development Technical Consulting



### Technical consulting

Sefar is equipped with the high technology of drawings in 3D to be perfectly adapted to each type of plate.





## Sefar's Global Fabrication Facilities Fabrication Capabilities

### Choosing the Best Filter Configuration

#### **Pleated elements**

- Monofilament and multi layered pleated elements
- Unlimited pleat counts
- Various pleat heights
- Endless pleated elements

#### **Ribbons**

Heat or ultrasonically slit.

#### **Stamped discs, shapes**

Cold stamping provides standard tolerance pieces.

Laser cutting assures high-tolerance pieces with fray-resistant edges.

#### **Tubes, continuous rolls**

Single or multilayer, can be heat-slit or ultrasonically welded into tube configurations.

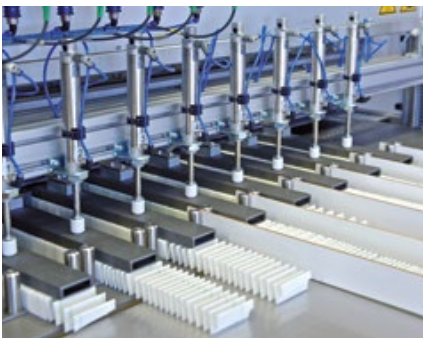
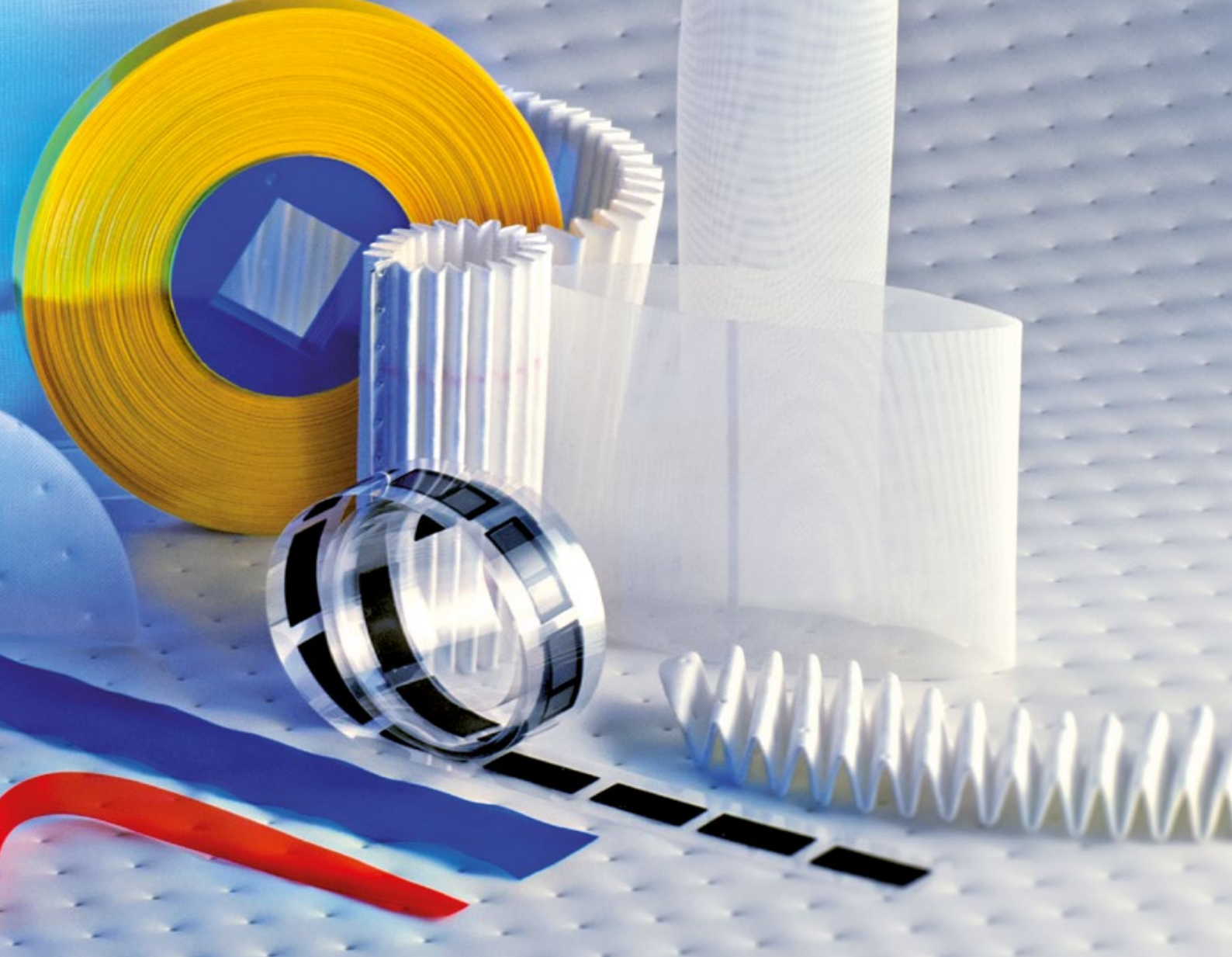
#### **Tubes, cut to length**

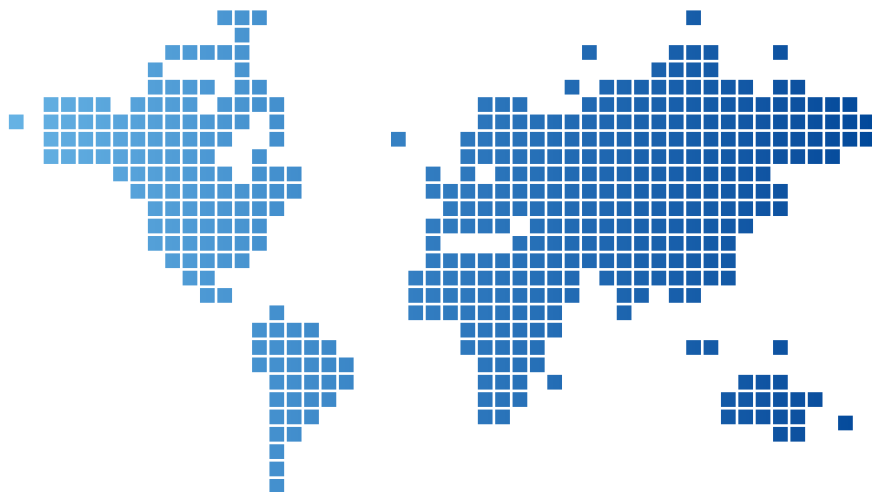
Tube segments can be cold or laser-cut.

#### **Ultrasonic bonding calender**

Ultrasonic calendering combines up to four layers together.







## Sefar Worldwide

Sefar is the leading manufacturer of precision fabrics from monofilaments for the screen printing and filtration market. Sefar products are used in a wide variety of industries, reaching from electronics, graphics, medical, automotive, food and pharmaceutical applications to aerospace, mining & refining and architecture. With its profound understanding of the applications Sefar helps its customers to achieve optimum results in their industrial processes. With subsidiaries and representatives around the world, Sefar offers its customers the comprehensive, global support they need.

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